

SUPPLEMENTAL REMARKS

The Applicant appreciates the courteous and complete examination of the application by the Examiner. In view of the previous amendments and remarks, and the following supplemental remarks, a reconsideration of the instant application is respectfully requested.

The Applicant appreciates the opportunity to submit these supplemental remarks since the Applicant is unclear from the Examiner's Office Action as to which vertical duct (10 or 15) in document '437 the Examiner is relying upon.

The Applicant contests the Examiner's main argument for the rejection of claim 1 in that "It would have been considered obvious to one of ordinary skill in the art to modify British document '544 to include a roof with horizontal duct and turbine as taught by Japanese document '907 and a vertical duct connected to the room as taught by British document '437 in order to control the amount of power generated."

Preliminarily, it is noted that element (15) in document '437 indicates a U-shaped tube consisting of a room and a vertical duct at the lee side of the plant. Therefore side room will be denoted as room (15), and side vertical duct as vertical duct (15).

If the vertical duct of document '437 mentioned by the Examiner is meant to be the vertical duct (10), then the reply is the following. Both the vertical duct (10) of the document '437 and the vertical duct 2 of the present claimed invention have the function to absorb wave energy, but there are some big differences. First, the vertical duct (10) of document '437 is connected to the sea through a lower opening, while the vertical duct 2 in the present claimed invention is connected to the sea through the upper opening 6. Second, in document '437 the vertical duct (10) is connected to the room through the upper opening which is defined above the ledge (13); while in the present claimed invention the vertical duct 2 is connected to the room through the lower opening 7. Third, in document '437 air can flow through said upper opening above the ledge (13); while in the present claimed invention it is water that can flow through said lower opening 7. In other words, in document '437 air can flow from the vertical duct to the room; while in the present claimed invention water can flow from the vertical the room. There are three benefits in having a master water column defined by a vertical duct and a room being connected to each other through a lower opening. These three benefits

will be made clear at the end of the reply to the Examiner's main argument from the rejection of claim 1.

If the vertical duct mentioned by the Examiner is meant to be the vertical duct (15) then the reply is the following. The Applicant would like to point out that the vertical tube connected to a room (15) in the document '437 actually serves for control, while the vertical duct 2 in the present invention does not serve at all for control. The difference between the function of the vertical duct 2 of the present invention and the function of the vertical duct of document '437 leads, necessarily, to some important differences in the overall configuration. First, in document '437 the room being connected to the vertical duct 15 has a lateral opening which connects the room (15) with the so called port (14) which is connected to the master column (11) which is connected to the sea. While in the present invention the room 3 being connected to the vertical duct 2 has no lateral opening. Second, in document '437 the vertical duct (15) having a control function has been placed at the lee side of the plant where the wave energy is smaller, while in the present invention the vertical duct 2 having the function to absorb wave energy has been placed at the wave-beaten side of the plant, where the wave energy is greater.

The function of the vertical duct in document '437 can be expressed in that the port (14) and the vertical duct (15) containing the column (17) work as a valve, as can be appreciated by this quote from document '437 "As the column 17 rises, it closes a port 14 to retain the master column 11 stationary, but the port 14 re-opens as column 17 falls."

The present invention, as described in claim 1, discloses a U-shaped master column being contained in the vertical duct 2 and in the vertical room 3. Hence, the vertical duct 2 contains a part of the master column. This is substantially different from document '437, by that the master column of the present invention is not retained stationary by a valve-type device as mentioned above.

Conventional oscillating water columns (OWCs), including the prior art references relied upon by the Examiner, correspond to the general description that it is given in the Background art section. They consist of a vertical master column communicating with the sea through a lower opening. The eigenperiod of said vertical

master column is typically smaller than the wave period, as it is explicitly pointed out in document '437. That is why, for increasing efficiency, some OWCs exploit a so called forced resonance obtained by means of some complex devices for phase control. An advanced example of said devices for phase control is that illustrated in the paper by Korde (1991) which is quoted in the Background art section. Another device for phase control is that disclosed by document '437, which consists of the vertical duct (15), the oscillating column (17), and the port (14).

It can be appreciated that the claimed present invention does not need devices for phase control. The U-shaped master column of the present invention has an eigenperiod greater than the eigenperiod of a vertical master column. The eigenperiod can be given the same value of the wave period, on making the width of the vertical duct 2 smaller than the width of the room 3. That is why the claimed present invention exploits a natural resonance and does not call for devices for a forced resonance, like the prior art references.

With the previous amendments being fully responsive to all outstanding rejections and formal requirements, it is respectfully submitted that the claims are now in condition for allowance, and a notice to that effect is earnestly solicited. Should the Examiner feel that there are further issues which might be resolved by means of telephone interview, the Examiner is cordially invited to telephone the undersigned at (403) 444-5695, or by email at davidguerra@verizon.net.

Respectfully Submitted,

A handwritten signature in cursive script, reading "David A. Guerra".

David A. Guerra, Reg. 46,443

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On (Date) July 31, 2006 by David A. Guerra 